R E P O R T R E S U M E S

ED 013 880 VT 000 598

A DESCRIPTION AND SOURCE LISTING OF PROFESSIONAL INFORMATION IN AGRICULTURAL EDUCATION, 1963-64.

BY- SLEDGE, GEORGE W. AND OTHERS
AMERICAN VOCATIONAL ASSN., WASHINGTON, D.C.

PUB DATE 63

EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *INSTRUCTIONAL MATERIALS, CURRICULUM GUIDES, *AGRICULTURAL EDUCATION, CURRICULUM DEVELOPMENT, ADULT FARMER EDUCATION, AGRICULTURAL ENGINEERING, ANIMAL SCIENCE, *BIBLIOGRAPHIES, EDUCATIONAL FACILITIES, ENTOMOLOGY, FARM MANAGEMENT, FORESTRY, OCCUPATIONAL GUIDANCE, PLANT SCIENCE, SUPERVISED FARM PRACTICE, TEACHER EDUCATION, INSTRUCTIONAL AIDS, FUTURE FARMERS OF AMERICA,

BRIEF ANNOTATIONS ARE GIVEN FOR MANY OF THE 107 REFERENCES LISTED UNDER THE FOLLOWING CATEGORIES -- (1) ADULT EDUCATION, (2) AGRICULTURAL ENGINEERING, (3) ANIMAL SCIENCE, (4) CURRICULUM DEVELOPMENT AND CURRICULUM IN CROPS, ENTOMOLOGY, FARM MANAGEMENT, FARM MECHANICS, AND LIVESTOCK, (5) FARM BUSINESS MANAGEMENT AND MARKETING, (6) FORESTRY, (7) FUTURE FARMERS OF AMERICA, (8) GUIDANCE, (9) PLANT SCIENCE AND SOILS, (10) SUPERVISED PRACTICE, (11) SUPERVISION AND TEACHER EDUCATION, (12) TEACHING AIDS AND MATERIAL, AND (13) FACILITIES FOR DEPARTMENTS. EACH LISTING INCLUDES TITLE, AUTHOR, PUBLISHER, PUBLICATION DATE, PRICE, AND AVAILABILITY. (JM)

Dr. Taylor

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A DESCRIPTION AND SOURCE LISTING OF PROFESSIONAL INFORMATION IN AGRICULTURAL EDUCATION

Developed and published by the Professional Information Committee of the Agricultural Education Division of the A.V.A.

1963-64

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1963-64

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ADULT EDUCATION

A SUMMARY OF THE OFFERINGS IN YOUNG AND ADULT FARMER CLASSES IN WEST VIRGINIA AND SUGGESTIONS FOR IMPROVEMENT. Warren G. Kelly, Agricultural Education Department, College of Agriculture, West Virginia University, Morgantown, West Virginia; Spring, 1963; Free - very limited supply. A summarization of the offerings in young and adult farmer classes in West Virginia and suggestions for improvement.

SELECTED INFORMATION ON FARM ORGANIZATION. Staffs in Agricultural Economics and Agricultural Education, Agricultural Education Department, University of Georgia; July; 1962; file copies only (86 pages). Contains information and suggestive techniques for teachers to use in young and adult farmer classes in farm planning.

AGRICULTURAL ENGINEERING

SMALL GASOLINE ENGINES. W. W. McClure, Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; 1963; single copies available to supervisors and teacher trainers. A suggested content outline on basic principles, operation and care of small gasoline engines. A suggested 20-hour course for adult farmers.

THE CIRCULAR SAW, HOW TO USE IT SAFELY (462). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; January, 1963; $3.67 f.o.b. Urbana. This is a color, single-frame slidefilm of 54 frames. The types of saw blades and the parts of the saw are shown. The various adjustments of the saw are described. Safe practices are illustrated for ripping and crosscutting. Safe operation is emphasized throughout the film.

ELECTRICAL WIRING--PROCEDURES AND EXERCISES (VAS 3016). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 32¢ each f.o.b. Urbana. This 32-page subject-matter unit describes the procedures and skills used in the following operations: bringing electrical service to a building, bringing electrical service into a building, installing interior wiring, and wiring various electrical devices. Also included are 52 wiring exercises.

FARM MECHANICS PLANS FOR VOCATIONAL AGRICULTURE. Benton K. Bristol, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; January, 1963; free. A compilation of plans for building farm equipment and structures for cattle, hogs, and sheep.

MOTOR OIL, SELECTION AND USE. Jess Hall and A. O. Duncan, Agricultural Education Department, University of Georgia; January, 1963; file copies only (11 pages). Deals with selection of oils and how to use them; develops basic understandings of oils and additives.

THE RADIAL ARM SAW, HOW TO USE IT SAFELY (464). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; March, 1963; $3.74 f.o.b. Urbana. This is a color, single-frame slidefilm of 57 frames. Safety checks are emphasized and adjustments to the saw are described. Crosscutting, ripping, and other operations possible with the saw are illustrated.

SUGGESTED TEACHING DEMONSTRATIONS IN AGRICULTURAL MECHANICS. Compiled by Donald Burgett under the direction of Joe P. Bail and based on actual plans developed by vo-ag teachers of New York State, Division of Agricultural Education. Stone Hall, Cornell University, Ithaca, New York: January, 1963; single copy free to state supervisors and head teacher trainers. Complete demonstration plans for the following agricultural mechanics jobs: adjusting valves, calibrating the grain drill, care of weed sprayer (end of season), framing a common rafter, operating the carbon arc torch, preparing the grain drill for storage, replacing ignition points and winterizing the cooling system.

ELECTRICAL WIRING--FUNDAMENTALS AND PLANNING (VAS 3003a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 24¢ each f.o.b. Urbana. This 24-page subject-matter unit provides information on the fundamentals of electricity, considering safety and adequacy, selecting wiring materials and devices, and planning the farm wiring systems.

ANIMAL SCIENCE

ARTIFICIAL INSEMINATION OF LIVESTOCK (VAS 1002a). Vocational Agriculture Service, 434 Mumford Hall Urbana, Illinois; November, 1963; 8¢ each f.o.b. Urbana. This 8-page subject-matter unit lists the advantages and disadvantages of artificial insemination, discusses methods of collecting and storing semen, and artificially inseminating females.

CATTLE GRUBS (VAS 1035). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois: November, 1963: 4¢ each f.o.b. Urbana. This 4-page subject-matter unit discusses the description and life cycle of cattle grubs and control measures.

HARMFUL PARASITES OF FARM ANIMALS. The departments of Animal Pathology, and Agricultural Education. Phi Chapter, Alpha Tau Alpha, c/o Department of Agricultural Education. University of Arizona, Tucson, Arizona; April, 1963; $1.25. This material was prepared for use by high school vocational agriculture students, but would be useful for young farmer and adult groups. Special emphasis has been placed on livestock parasites of economic importance in Arizona, but most of the material would be applicable to other parts of the country. This 60-page publication contains an introductory chapter that discusses parasitism, types of parasites, types of infection and resistance, damage and economic importance. Following the introduction is a brief description of more than 30 parasites of economic importance in Arizona that affect cattle, horses, sheep, swine, cats, and dogs. Information is given, for each parasite, on economic importance, life cycle, damage symptoms, treatment, and control.

Dairying and Milk Production

USING OWNER SAMPLER RECORDS IN VOCATIONAL AGRICULTURE. Prepared by Joe P. Bail and Harold Cushman, Department of Rural Education, Agricultural Education Division: J. D. Burke, Animal Husbandry Department, and Norman Rollins, Executive Secretary, New York Dairy Herd Improvement Coop., Ithaca, New York; Division of Agricultural Education, Stone Hall, Cornell University, Ithaca, New York; March, 1963; single copy free to state supervisors and head teacher trainers. Provides instructions to students for using the official Owner-Sampler Records of DHIA. Describes how to make entries and summarize the Owner-Sampler Herd Book, Lifetime Records of Individual Cows and Production and Feeding Analysis forms.

EDUCATIONAL INFLUENCES OF ON-FARM SERVICE CENTERS. Frank Anthony, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September 5, 1963; free. Paper delivered at National On-farm Shop Seminar, Huntley, Illinois. Describes plans for On-farm Service Centers for large, medium, and small dairy farms in Pennsylvania.

INFORMATION AND SUGGESTIONS FOR PLANNING AND CONSTRUCTING NEW MILK HOUSES - SELECTING, INSTALLING AND MAINTAINING MILK HOUSE EQUIPMENT. Benton K. Bristol, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; January, 1963; free. A compilation of information useful to young adult farmers involved in planning, constructing, equipping, and maintaining milk houses.

Sheep

CARING FOR THE SHEEP BREEDING FLOCK (VAS 1001a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 8¢ f.o.b. Urbana. This 8-page subject-matter unit is a revision of VAS 1001 which discusses feed and care of ewes and rams, age and time of breeding, and feed and care for pregnant ewes.

SHEEP PRODUCTION IN WEST VIRGINIA. John A. Scott, Department of Agricultural Education, College of Agriculture, West Virginia University, Morgantown, West Virginia; Spring, 1963; free. A source unit on sheep production arranged according to the unit concept. 32 pages. Contents - Survey of Home Farm, Selecting and Securing a Flock, Breeding, Feeding, Management, Docking and Castrating, Shearing and Handling. Controlling Diseases and Parasites. How to fit and show sheep, marketing lambs, analysis, conclusions, evaluation quiz, and bibliography.

Swine

APPROVED PRACTICES FOR SWINE. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 5¢ f.o.b. Urbana. This is a five-page publication which can be an aid to teachers for use with the student record book or perhaps for other parts of the instructional program. A few of the major headings are: Selecting Foundation Stock, Providing Housing and Equipment, Feeding, Handling and Caring for Swine, Controlling Diseases and Parasites, Breeding and Improving, Marketing.

SWINE FEEDS AND FEEDING (VAS 1036). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 12¢ f.o.b. Urbana. This 12-page subject-matter unit discusses: feeds that supply carbohydrates and fats, proteins, minerals, vitamins, and antibiotics; forage crops; water; and, the economy of mixing swine rations.

CURRICULUM

AGRICULTURE TECHNOLOGY EDUCATION. Staff-Agriculture Technology Section, Vocational Technical Division, Department of Community Colleges, Raleigh, North Carolina; 1963: one copy available to state supervisors. A 12-page brochure depicting the agricultural technology curricula offered in industrial education centers, technical institutes, and community colleges.

CURRICULUM GUIDE, AGRICULTURAL TECHNOLOGY. C. G. Dawson, Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; April, 1963; one copy available to state supervisors. A description of technical agricultural curricula offered in industrial education centers, technical institutes, and community colleges.

THE IMPORTANCE OF AGRICULTURE (resource unit). A. K. Jensen, Assistant Professor, Agricultural Education Department, Clemson College, Clemson, South Carolina; June, 1963; free. A list of lessons with references on the Importance of Agriculture.

THE LAND LABORATORY. Roland Cook and Paul Sweany, Publications Office, College of Education, Michigan State University, East Lansing, Michigan; August, 1963; $1.50. Describes a Land Laboratory operated by an FFA chapter for use of the total school system.

TEACHING MEATS IN VOCATIONAL AGRICULTURE. Warren L. Griffen, Department of Agricultural Education, University of Missouri, Columbia, Missouri; June, 1963; 35¢. Teaching plans for 7 units. List of references 30 pages.

TEACHING UNITS FOR VOCATIONAL AGRICULTURE IN VIRGINIA (Agricultural Education Bulletin No. 17). Virginia Teachers of Vocational Agriculture, and Agricultural Education Staffs at Virginia Polytechnic Institute and State Department of Education, Agricultural Education, Virginia Polytechnic Institute, Blacksburg, Virginia; Revised edition - 1962; 50¢ per copy, prepaid, as long as supply lasts. 59 pages printed on 8 1/2" x 11" paper.

UNITS OF INSTRUCTION IN VOCATIONAL AGRICULTURE. Teachers of Vocational Agriculture, State Department of Education, Baton Rouge 3, Louisiana; April, 1963; limited supply. Units of instruction and lesson in each unit prepared for use in teaching.

COURSE OF STUDY GUIDE FOR VOCATIONAL AGRICULTURE IN UTAH. Course of Study Committee, including teachers of Vocational Agriculture, High School Principal, and District Superintendent of Schools, State Department of Public Instruction, Vocational Division, 223 State Capitol, Salt Lake City, Utah; June, 1963; price upon request. This is a complete course of study guide for a four year program in Vocational Agriculture including agriculture science and farm mechanics.

A CORE COURSE OF STUDY FOR VOCATIONAL AGRICULTURE (and Supplements). Vocational Curriculum Development Committees, Bureau of Agricultural Education, New York State Education Department, Albany 1, New York; 1963; single copies free to state supervisors and teacher educators. Three supplements — Fruit Growing, Horticulture, and Vegetable Crops — were developed at the request of teachers. The core course in 13 pages, the supplements in 4, 6, and 7 pages. The core course of study includes suggested units of instruction suitable for the dairy farming areas of New York State. It is intended as a guide to developing local courses of study. Teacher suggestions are given.

AGRICULTURE FOR RELATED OCCUPATIONS. Vocational Curriculum Development Committee, Bureau of Agricultural Education, New York State Department of Education, Albany 1, New York; September, 1963; single copies free to state supervisors and teacher educators. The content applicable to related occupations is outlined. Suggested units for the additional subject is given. A proposed high school program is included. A curriculum proposal for adjusting programs of Vocational Agriculture to better train for the occupations in agriculture other than farming, either as a part of regular classes in Vocational Agriculture, or where numbers justify, as a unit course after two years of Vocational Agriculture.

AGRICULTURE FOR THE JUNIOR HIGH SCHOOL. Vocational Curriculum Development Committee, Bureau of Agricultural Education, New York State Education Department, Albany 1, New York; September, 1963; single copies free to state supervisors and teacher educators. A suggested course of study for agriculture taught in grades seven and eight. It includes objectives, units of instruction, and associated activities. 9 pages.

Curriculum Development

OUTLINE FOR PREPARING: 1. A COURSE OF STUDY IN VOCATIONAL AGRICULTURE 2. A TEACHER'S UNIT PLAN. Gene M. Love, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; single copies free for out-of-state requests. An outline explaining how to develop a course of study and how to develop a unit plan.

A GUIDE FOR COURSE PLANNING. A. G. Bullard and Gerald B. James, North Carolina Department of Public Instruction, Raleigh, North Carolina; February, 1960; one copy to teacher trainers and supervisors. A guide for planning courses in Vocational Agriculture, including high school and adult farmer programs, 33 pages.

A GUIDE FOR DEVELOPING COURSES OF INSTRUCTION IN VO-AG DEPARTMENTS OF WEST VIRGINIA. Committee of West Virginia Vo-Ag Teachers, Department of Agricultural Education, College of Agriculture, West Virginia University, Morgantown, West Virginia; August, 1963; free. A guide for use in developing the instructional program for day students in departments of Vocational Agriculture in West Virginia.

GUIDE FOR DEVELOPING THE INSTRUCTIONAL PROGRAM FOR VOCATIONAL AGRICULTURE IN VIRGINIA (Agricultural Education Bulletin No. 19). Virginia Teachers of Vocational Agriculture, and Agricultural Education Staffs at Virginia Polytechnic Institute and State Department of Education. Agricultural Education Department, Virginia Polytechnic Institute, Blacksburg, Virginia; 1963; single copy sent upon request as long as supply lasts, very limited supply available. 23-page printed bulletin.

Crops

USING THE SCHOOL GREENHOUSE - A SCHOOL-YEAR UNIT TO TEACH ENVIRONMENTAL PRINCIPLES OF PLANT SCIENCE THROUGH PRODUCTION OF CROPS OF CHRYSANTHEMUMS, DAFFODILS AND VEGETABLE TRANSPLANTS. Charles C. Drawbaugh, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; $1.00. This is a teacher's resource unit. It demonstrates how the greenhouse and classroom can be used to teach plant science principles.

FERTILIZERS AND LIMES. W. W. McClure and C. D. Welch, Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; September, 1963; single copies available to supervisors and teacher trainers. A unit course outline on fertilizers and limes for adult farmers. This content outline covers plant growth essential, plant nutrients, soil testing, and liming. The course is planned for 20 hours of instruction.

Entomology

HANDLING AND USING AGRICULTURAL CHEMICALS SAFELY (VAS 4045). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 12¢ f.o.b. Urbana. This is a 12-page subject-matter unit that discusses ways of preventing chemical hazards. A pesticide safety check list also is included.

PESTICIDES. Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; 1963; single copies available to supervisors and teacher trainers. A suggested teaching outline on pesticides for use in adult farmer education. The outline includes general pesticide information, safety, formulations, and application. The outline is planned for 18 hours of instruction.

Farm Management

ANALYZING AND PLANNING THE FARM BUSINESS. W. W. McClure, W. D. Toussaint and C. R. Weathers, Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; October, 1963; one copy available to supervisors and teacher trainers. A teaching outline in farm management for adult farmers. This content outline suggests 15 class sessions of 2 hours each.

FARM MANAGEMENT CONTEST - NEVADA. Agricultural Education Department, University of Nevada; October, 1962; free as long as supply lasts. This outline in teaching Farm Management is for the purpose of assisting the teachers to meet the four objectives listed below:

1. Encourage students to look at the farm as a complete business unit or the whole farm concept.
2. Encourage students to gain an understanding and appreciation of the economic principles as they apply to a farm business.
3. To serve as an aid in teaching sound farm management principles which include: production, marketing, financing, and balanced use of resources as well as over-all planning.
4. To provide training in the analysis and evaluation of a farm or ranch for the purpose of giving the student experience in the techniques he should follow before making the decision to enter a similar business.

The contest is to provide motivation.

Farm Mechanics

COURSE OF STUDY AGRICULTURAL SCIENCE. State Supervisor, State Teacher Trainer, and selected teachers, State Supervisor, Agriculture Education, Department of Education, State Capitol Building, Salt Lake City, Utah; May, 1963; no charge for single copy. A four-year course of study set and calendared according to units and months to be taught.

COURSE OF STUDY FARM MECHANICS. State Supervisor, State Teacher Trainer, and selected teachers, State Supervisor, Agriculture Education, Department of Education, State Capitol Building, Salt Lake City, Utah; May 1, 1963; no charge for single copy. A four-year course of study in agricultural mechanics including teaching units and monthly schedules.

TEACHING AGRICULTURAL MECHANICS (Monograph 63). Denver B. Hutson, Department of Vocational Teacher Education, University of Arkansas, Fayetteville, Arkansas; June, 1963; free, single copies available only to teacher trainers and state supervisors. A guide for teachers of agriculture for developing a course of study in Vocational Agriculture I.

FARM ARC WELDING. Ezra L. Howell, Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; January, 1963; single copies are available for supervisors and teacher trainers. A 20-hour course in arc welding for adult farmers groups. The fundamentals of farm arc welding, which may be used in construction, repair, and maintenance of farm machinery, are covered. Helpful suggestions for teaching the course are included.

Livestock

TEACHING SHEEP PRODUCTION IN VOCATIONAL AGRICULTURE. Warren L. Griffin, Department of Agricultural Education, University of Missouri, Columbia, Missouri; June, 1963; 25¢. Teaching plans for 6 units. List of references. 20 pages.

IMPROVING ANIMALS THROUGH BREEDING (scrambled book). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; December, 1962; 10¢ f.o.b. Urbana. The text of this 38-page scrambled booklet was taken from VAS 1009, but programmed as a "teaching machine." It includes the cell and cell division, reproduction and fertilization, transmission of characters, and determination of sex.

DIGESTION IN ANIMALS (scrambled book). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; December, 1962; 10¢ f.o.b. Urbana. The text of this 26-page scrambled booklet was taken from VAS Unit 1026, but programmed as a "teaching machine." It explains the digestive system and discusses the various steps of digestion from the mouth to the large intestine.

FARM BUSINESS, MANAGEMENT, MARKETING

BALANCING THE LABOR SUPPLY AND THE FARM BUSINESS (VAS 2035). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 8¢ f.o.b. Urbana. This 8-page unit can be used along with the booklet, Planning Your Farm Business, for fitting labor to the farm plan. Items discussed are: the amount of labor needed and its probable distribution, balancing the amount needed and the amount available, and meeting the labor needs of the problem farm.

FARM RECORDS, INCOME TAX AND SOCIAL SECURITY. Curriculum Laboratory, Department of Community Colleges, Raleigh, North Carolina; October, 1963; single copies available to supervisors and teacher trainers. A teaching outline on fundamentals of record-keeping as related to analyzing the farm business, income tax, and Social Security. This course outline is designed for 24 hours of instruction for adult farmers.

PARTIAL BUDGET AND "BREAK-EVEN" PROBLEMS AND KEY. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 4¢; key, 3¢ f.o.b. Urbana. The partial budget forms are not included with the problem and should be ordered separately. This material of 8 pages provides information and practice problems for preparing 4 partial budgets for adding livestock or machinery to the farm business. The break-even problems help determine the number of acres at which ownership of a machine is more favorable economically than hiring custom work. The key (4 pages) shows the completed budgets and the problem results.

FARM MANAGEMENT (Unit IV). F. E. Kirkley, Associate Professor, Agricultural Education Department, Clemson College, Clemson, South Carolina; January, 1963; free, some available. One of several units on Farm Management. Unit IV deals with financing the farm business.

SAMPLE ENTRIES AND KEY TO ENTRIES FOR COLORADO EXTENSION FARM ACCOUNTS AND RECORD BOOK. Irving C. Cross and Harry Crim, Agricultural Education Department, Colorado State University, Fort Collins, Colorado; September 15, 1963; no charge for single copies. A problem involving the month-by-month farm business transactions to be used as sample entries in training day school, young and adult farmers in keeping farm records and accounts. Carries through the summary of the year's business and net worth statement. Can be adapted to other state farm account and record books.

LESSON PLANS FOR TEACHING A UNIT IN FARM CREDIT AND AGRICULTURAL FINANCE. Otto P. Legg, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; $1.00. This is a teacher's resource unit.

SELECTED PRINCIPLES BASED ON THE RELATIONSHIP OF CERTAIN ECONOMIC FACTORS TO LABOR INCOME (Resource Unit). Joe P. Bail, Gerald R. Fuller, Lyle Wicks, Division of Agricultural Education, and C. A. Bratton, Extension Project Leader in Agricultural Economics, Division of Agricultural Education, Stone Hall, Cornell University, Ithaca, New York: December, 1962; single copy to state supervisors and head teacher trainers. A list of general principles showing how economic factors such as general price level, markets, land resources, size of business, rates of production, labor efficiency, and cost control affect the labor income. Charts illustrate these relationships and further sources of information are given.

ANALYSIS CHART FOR THE FARM BUSINESS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 2¢ f.o.b. This 8 1/2" x 11" chart provides a means for comparing a farmer's results for 15 factors with averages for similar farms. The material was developed for the 1963 intensive courses in farm management for Illinois teachers. The livestock measures are for hogs and beef cattle but the headings can be changed for farms where other kinds of livestock are important. The use of the material is illustrated in another item, Analyzing the Farm Business (1962) and Key.

PARTIAL BUDGET FORMS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 3¢ f.o.b., double sheet of 4 forms. A single copy of this material consists of a double sheet containing 4 partial budget forms. These forms can be used along with Partial Budgets and Break-Even Problems.

CHOOSING SPECIFIC CROPS TO GROW (VAS 2006a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 12¢ f.o.b. This 12-page unit discusses the choice of specific crops after the general rotation formulas have been selected. Crops are classified into row, small grain, and forage groups. The percentage is shown for each of these groups as a per cent of the total Illinois cropland harvested. Advantages of growing more than one crop are discussed and income figures given for various Illinois crops. Crop sequences and adjustments are discussed.

ANALYZING THE FARM BUSINESS (1962) AND KEY. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 8¢ for problem, 3¢ for key, f.o.b. This material (16 pages) is based on results obtained on an Illinois farm and previously included in the Farm Record Problem available from Vocational Agriculture Service. The analysis problem and key were developed especially for intensive courses (held during the summer of 1963) in farm management for teachers. The teacher's key of 4 pages shows the results of the completed calculations.

RECORD KEEPING ON THE FARM (VAS 2008a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 8¢ f.o.b. This 8-page subject-matter unit can be used along with other recordkeeping aids, such as record problems or VAS 2037, Setting Up Farm Records to Provide for Analysis. Unit 2008a includes:

1. Starting a System of Farm Records.
2. How Is a Farm Record Book Organized?
3. Making Entries in a Farm Record Book.
4. Summarizing a Farm Record Book.

SIMPLIFYING FARM WORK (VAS 2036). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 16¢ f.o.b. This unit presents reasons why we should be interested in simplifying farm work and gives a detailed illustration of a procedure to follow in order to accomplish work simplification. Ways are suggested for reducing labor in jobs that usually require much labor, such as the feeding of silage and the care of a laying flock. A partial budget serves as a tool for determining whether it pays to invest in labor-saving equipment. The unit contains 16 pages.

SETTING UP FARM RECORDS TO PROVIDE FOR ANALYSIS (VAS 2037). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 8¢ f.o.b. This 8-page unit shows what records can tell about a farm. The major kinds of analysis measures are discussed, along with examples of each. The remainder of the unit tells how to set up the various parts of the record system to provide information for obtaining these measures. Parts discussed are inventories, depreciation schedules, financial transactions, feed records, and production records.

FORESTRY

GROWING AND SELLING CHRISTMAS TREES (VAS 4046). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 12¢ f.o.b. This is a 12-page subject-matter unit that discusses the following questions:

1. What Species Should I Grow?
2. How Should I Control Weeds?
3. How Should I Control Insect Outbreaks?
4. Why Should I Shape Christmas Trees?
5. How Should Christmas Trees Be Harvested, Graded, and Sold?

FUTURE FARMERS OF AMERICA

SUGGESTIONS FOR CROP DEMONSTRATIONS. Agricultural Education Staff personnel, Department of Vocational-Technical Education, Graduate School of Education, 10 Seminary Place, Rutgers University, New Brunswick, New Jersey; April, 1963; free in limited quantities. Mimeographed booklet detailing plans for FFA Chapter Crop Demonstrations.

SO YOU WANT TO BE AN OFFICER IN THE FFA. Joe P. Bail, Chairman, Agricultural Education Division, Rural Education Department, Cornell University, Division of Agricultural Education, Stone Hall, Cornell University, Ithaca, New York; March, 1963 (reprint); single copies free to state supervisors and head teacher trainers. A bulletin describing the qualifications, duties, and responsibilities of members and officers in the FFA. Describes the various functions of each office as well as the job of the parliamentarian.

PARLIAMENTARY PROCEDURE--PRESENTING AND VOTING ON A MOTION (scrambled book). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; December, 1962; 10¢ f.o.b. The text of this 22-page scrambled booklet was taken from A Guide to Parliamentary Practices, but was programmed as a "teaching machine." It includes obtaining the floor, making a motion, getting a second, discussing the question, calling for the vote, voting on the motion, and announcing the results.

A CONTEST AND AWARD HANDBOOK FOR NEW FARMERS OF AMERICA. Agricultural Education Staff, A. G. Gordon, ed., Agricultural Education Department, Alcorn A & M College, Lorman, Mississippi; December, 1962; none available for disposal, several copies available to interested persons on a loan basis. Combines all FFA Foundation Award application forms in one volume -- includes application forms, rules and regulations peculiar to the Mississippi Association of NFA.

GUIDANCE

THE VOCATIONAL AGRICULTURE STUDENT AND HIS PEERS. Lawrence W. Drabick, Agricultural Education Department, North Carolina State, Raleigh, North Carolina; August, 1963; one copy free. A 60-page mimeograph booklet showing the occupational and educational plans of vocational agriculture students in North Carolina as compared with other students.

SUGGESTIONS FOR LAUNCHING STUDENTS INTO THE VOCATIONAL COURSE IN AGRICULTURE IN HIGH SCHOOL. Anthony Mumphrey, Louisiana State University; free, limited supply. Prepared lesson units for launching students into Vocational Agriculture at the high school level.

PERFORMANCE IN COLLEGE FRESHMEN BIOLOGY AS RELATED TO HIGH SCHOOL PREPARATION IN SCIENCE AND AGRICULTURE (Bulletin). Kenneth Neal Petermann, Agriculture Department, Southwest Texas State College, San Marcos, Texas; 1962; mailed free on request, 500 copies available. A 9-page bulletin concerned primarily with college science grades (Biology) made by two groups of students. One group having a background of science and Vocational Agriculture in high school and the other group science only. Records of 489 students were studied.

A CAREER OPPORTUNITY, "CALIFORNIA SCHOOLS NEED TEACHERS OF AGRICULTURE." Department of Agricultural Education, University of California, Davis; Department of Agricultural Education, California State Polytechnic College, San Luis Obispo; Bureau of Agricultural Education. 413 State Education Building, Sacramento 14, California; February, 1962. A brochure on teaching agriculture in California.

A PARTIAL LISTING OF OCCUPATIONS IN AGINDUSTRY FOR WHICH AGRICULTURAL WORK EXPERIENCE AND A KNOWLEDGE OF TECHNICAL AGRICULTURE ARE IMPORTANT. N. K. Hoover, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; revised 1963; free. A listing of agricultural occupations under the headings of:

1. On-farm as Owner or Tenant Farmer.
2. On-farm Employment as Paid Employees.
3. Farm Service Occupations.
4. Farm Machinery Sales and Service Occupations.
5. Farm Supplies and Equipment Occupations.
6. Livestock Industry Occupations.
7. Occupations in Crops, Forestry, and Soil Conservation.
8. Occupations in Ornamental Horticulture, Wildlife, and Recreation.

EXPLORING CAREERS IN MODERN AGRICULTURE. David F. Shontz, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; $1.00. A teacher's resource unit on careers. Designed especially for high school students. Effectively helps students know about agricultural careers and decide which they may prefer.

CHOOSING AN OCCUPATION - A GUIDE FOR HIGH SCHOOL STUDENTS. Joe P. Bail, Chairman, Agricultural Education Division, and A. Gordon Nelson, Professor of Educational and Vocational Guidance, both of the Rural Education Department, Cornell University, Division of Agricultural Education, Stone Hall, Cornell University, Ithaca, New York; January, 1963; single copies free to state supervisors and head teacher trainers. A bulletin designed to help high school students select an occupation. Includes information concerning: planning for the future, what people do for a living, understanding yourself, a self-inventory worksheet, exploring an occupation, and a worksheet for studying an occupation.

TRAINING FOR OFF-FARM AGRICULTURAL OCCUPATIONS. Raymond M. Clark, Publications Office, Michigan State University, College of Education, East Lansing, Michigan; July, 1963; $1.00. Report of one year of a Pilot Study on Training for Off-Farm Agricultural Occupations.

AGRICULTURAL SCIENCE YOUTH PROGRAM. Developed under the direction of Frederick K. T. Tom, Chairman, and Joe P. Bail, Vice Chairman of the Agricultural Science Youth Program, Division of Agricultural Education, Stone Hall, Cornell University, Ithaca, New York; March, 1963; single copies free to state supervisors and head teacher trainers. This bulletin describes the program conducted by the College of Agriculture, Cornell University, and held each spring for students of Vocational Agriculture in New York State. Descriptions are given for the 20 events, 4 of which are attended by each student, that are given by various departments of the college. The program is planned to help high school boys develop a broader and deeper understanding of the term agriculture, to discover the wide professional opportunities open in the field of agriculture, to see examples of the work of the College of Agriculture, and to develop an interest in educational opportunities in this field.

PENNSYLVANIA VOCATIONAL AGRICULTURE INTEREST INVENTORY MANUAL. Robert W. Walker, G. Z. Stevens, and N. K. Hoover, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; January, 1963: $1.00. An interest inventory for eighth grade students. Can be administered in 45 minutes. Aids teacher, guidance counselor in determining agricultural interest of students.

PLANT SCIENCE AND SOILS

FARM FIELD MAPPING, SOIL, WATER AND FERTILITY MANAGEMENT. G. Z. Stevens, J. R. Zubler, E. L. Love, J. L. Cook. Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; November, 1963; 25¢. A 20-page illustrated resource unit prepared for young adult farmer classes. It outlines four sessions on soils and field mapping, four on establishing and maintaining soil and water management practices, and four on soil testing and development of a system of field fertility records.

RECOMMENDED POTASSIUM FERTILIZERS (VAS 4008a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 8¢ f.o.b. This 8-page subject-matter unit discusses the following questions:

1. What Potash Fertilizers Are Used?
2. How Much Potash Fertilizer Should I Apply?
3. How and When Should I Apply Potash Fertilizers?

PLANT PROPAGATION EXAMINATION. Gene M. Love and Craig S. Oliver, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; free, single copies free to state supervisors and teacher trainers. A 50-question multiple choice test on plant propagation.

TESTING SOILS FOR POTASSIUM (VAS 4004a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 12¢ f.o.b. This 12-page subject-matter unit gives the steps and equipment necessary for testing soils for potassium and illustrates how to record the results.

APPROVED PRACTICES FOR WHEAT. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 4¢ f.o.b. This is a four-page publication which may be an aid to teachers for use with the student record book, or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Wheat; Conserving the Soil; Keeping Records; Testing the Soil and Applying Fertilizer; Preparing the Seedbed; Selecting Seed; Planting; Controlling Diseases; Controlling Insects; Harvesting and Storing.

APPROVED PRACTICES FOR ALFALFA. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 4¢ f.o.b. This is a four-page publication which can be an aid to teachers for use with the student record book or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Alfalfa; Conserving the Soil; Keeping Records; Testing the Soil and Applying Fertilizer; Preparing the Seedbed; Selecting Seed; Planting.

MAKING ESTIMATES OF CROP PRODUCTION AND ITS VALUE (VAS 2007a). Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 8¢ f.o.b. This 8-page unit furnishes information concerning consideration of factors for estimating crop production. Some figures are given to show yields obtained by recordkeeping cooperators on soils of various soil productivity ratings. Examples of variation among crop reporting districts are included. Consideration also is given to fertilizers, cropping systems, varieties, insects, diseases, and cultural practices.

APPROVED PRACTICES FOR CORN. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 4¢ f.o.b. This is a four-page publication which can be an aid to teachers for use with the student record book or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Corn; Conserving the Soil; Keeping Records; Testing the Soil and Applying Fertilizer; Preparing the Seedbed; Selecting Seed; Planting.

SUPERVISED PRACTICE

IMPROVING SUPERVISED PRACTICE IN VOCATIONAL AGRICULTURE. C. E. Dean, R. J. Denny, W. W. McClure, and T. R. Miller, Agricultural Education Department, North Carolina State, Raleigh, North Carolina; July, 1963; one copy free. A 34-page printed booklet intended as a guide for teachers of Vocational Agriculture in their quest for more effective ways of developing supervised practice programs with high school students.

IMPROVING SUPERVISED PRACTICE IN VOCATIONAL AGRICULTURE (Pub. No. 361). T. R. Miller and Committee, Department of Public Instruction, Raleigh, North Carolina; 1963: single copies to supervisors and teacher trainers. A 34-page bulletin on a modern approach to supervised practice in agriculture, rather than supervised farming alone. Values, responsibilities, and opportunities for development of supervised practice programs are discussed, along with suggested "Tools for Teaching."

LAND AND LIVESTOCK LABORATORIES IN NEW MEXICO & WEST TEXAS. A Special Graduate Study directed by J. D. McComas, Agricultural Education, New Mexico State University; July, 1962; limited number of copies available to departments of agricultural education.

GUIDE FOR SUPERVISED FARMING. H. W. Gadda, et. al., Agricultural Education Department, South Dakota State College, Brookings, South Dakota 57007; December, 1963; free single copies. A teaching aid for development of basic understandings of plans, budgets, financial recordkeeping and summaries pertinent to supervised farming enterprises.

MACHINE COSTS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; July, 1963; 2¢ f.o.b. This two-page item can be a help in determining machine charges in connection with crop enterprises in students' farming programs or for use in problems involving machine costs. The material is based mostly on detailed cost data from farmers enrolled in cooperative recordkeeping associations in Illinois.

APPROVED PRACTICES FOR OATS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 4¢ f.o.b. This is a four-page publication which can be an aid to teachers for use with the student record book, or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Oats; Conserving the Soil; Keeping Records; Testing the Soil and Applying Fertilizer; Preparing the Seedbed; Selecting Seed; Planting.

APPROVED PRACTICES FOR SOYBEANS. Vocational Agriculture Service, 434 Mumford Hall, Urbana, Illinois; November, 1963; 4¢ f.o.b. This is a four-page publication which can be an aid to teachers for use with the student record book, or perhaps for other parts of the instructional program. A few of the major headings are: Getting Started with Soybeans; Conserving the Soil; Keeping Records; Testing the Soil and Applying Fertilizer; Preparing the Seedbed; Selecting Seed; Planting.

SUPERVISION AND TEACHER EDUCATION

A STUDY OUTLINE FOR VOCATIONAL EDUCATION AS PART OF PRINCIPLES OF SECONDARY EDUCATION. Assembled by S. S. Richardson, Department of Agricultural Education, Utah State University, Logan, Utah; September, 1962; free. Summary of statements on vocational education including the demand for the courses, the breadth of the field, facts and opinions to support vocational education and educational profile reduced to a state level, and questions and answers about vocational education in Utah. A 19-page mimeo.

THIS WE BELIEVE (A policy bulletin for Vocational Agriculture in Utah). Mark Nichols and Elvin Downs, State Department of Public Instruction, Vocational Division, 223 State Capitol, Salt Lake City, Utah; October, 1962; $1.00 per copy, only a small quantity available for sale. This We Believe is a bulletin of policies, standards, procedures, and suggestions for conducting programs of Vocational Agriculture in Utah.

AGRICULTURAL TECHNOLOGY OPPORTUNITIES. Staff-Agricultural Technology Education, Vocational-Technician Division, Department of Community Colleges, Raleigh, North Carolina; October, 1963; one copy available to state supervisors. A booklet describing agricultural education programs available through North Carolina's newly created system of industrial education centers, technical institutes, and community colleges.

STATE MASTER PLAN OF INSERVICE EDUCATION FOR VOCATIONAL AGRICULTURE TEACHERS. Gene M. Love, Department of Agricultural Education, 101 Ag. Ed. Building, The Pennsylvania State University, University Park, Pennsylvania; September, 1963; single copies free for out-of-state requests. A three-year projection of inservice education classes offered by the Department of Agricultural Education at The Pennsylvania State University for Vocational Agriculture teachers.

TEACHING AIDS AND MATERIALS

SELECTED REFERENCES FOR NEW MEXICO VO-AG TEACHERS. J. D. McComas, Agricultural Education, New Mexico State University; May, 1963; limited number of single copies free to departments of agricultural education.

A TEACHING MATERIALS INVENTORY. J. D. McComas, Agricultural Education, New Mexico State University; June, 1963; limited copies available.

A COUNTY STATISTICS BOOKLET FOR TEACHERS OF VOCATIONAL AGRICULTURE. J. D. McComas, Agricultural Education, New Mexico State University; limited copies available.

FILMS, FILMSTRIPS, AND SLIDES FOR USE IN TEACHING VOCATIONAL AGRICULTURE. David M. Tugend, Department of Agricultural and Extension Education, University of Maryland, College Park, Maryland; October, 1963; $1.00, limited number of copies available; not prepared for widespread distribution. A compilation of free loan films, filmstrips and slides on agriculture available from various sources, mostly industry. A total of 374 films, filmstrips, and slides.

DESCRIPTION OF FILMSTRIPS AND MOVIES. Committee, Agricultural Education Department, Clemson College, Clemson, South Carolina; February, 1963; free copies available. A brief description of 21 movies and filmstrips which are available for teachers.

MOTION PICTURE FILMS SUITABLE FOR USE IN TEACHING VOCATIONAL AGRICULTURE (bulletin). J. D. Elliott (Ag. Ed. Class Project), Agriculture Department, Southwest Texas State College, San Marcos, Texas; 1963; limited number of copies available, will be sent free on request to teacher trainers and directors in the Vocational Agriculture field. A 54-page mimeographed bulletin. A rather complete list of motion picture films in the various subject matter fields. Approximately 450 films are listed, giving a brief discussion, the type of film (color, sound, black and white), running time, and where the film can be obtained.

BENEFICIAL AND HARMFUL INSECTS AFFECTING ALFALFA SEED PRODUCTION IN SOUTHWESTERN IDAHO. Lawrence La Rue, Agricultural Education Department, University of Idaho, Moscow, Idaho; June, 1963; no charge for single copies.

STUDENT'S CLASSIFIED INDEX TO AGRICULTURAL EDUCATION MAGAZINE, VOLUME I - XXXIV. William C. Boykin, Sr., Agricultural Education Department, Alcorn College, Lorman, Mississippi; July, 1963; free until supply is exhausted, prepared to furnish one copy to each Agricultural Education Department to states requesting. A 34-page mimeograph which classifies articles published in "Agricultural Education Magazine" into 13 categories and further into 67 sub-areas. Useful for quick and ready reference for busy professors and students. A timesaver in the college or university library.

FACILITIES FOR DEPARTMENTS

A GUIDE FOR PLANNING BUILDINGS, FACILITIES, AND EQUIPMENT FOR VOCATIONAL EDUCATION IN AGRICULTURE. V. B. Hairr and Committee, North Carolina Department of Public Instruction, Raleigh, North Carolina; June, 1962; one copy to supervisors and teacher trainers. A 31-page bulletin developed on a modern concept of the teaching laboratory for agricultural mechanics, including lists of tools and equipment for the several sub-areas of farm mechanics.

FACILITIES FOR VOCATIONAL AGRICULTURE DEPARTMENTS IN WEST VIRGINIA. Joint Supervisor-Teacher Training Staff, Division of Vocational Education, Vocational Agriculture Service, State Department of Education, Capitol Building, Charleston, West Virginia 25305; September, 1962; one copy free to supervisors and teacher trainers. Describes standards for Vo-Ag classroom and shop facilities. Lists equipment and supplies needed for departments. Provides pictures and drawings of recommended facilities.

FILE CLASSIFICATION MANUAL FOR DEPARTMENT OF AGRICULTURAL EDUCATION. Arranged by Claude McGhee, Department of Agricultural Education, College of Agriculture, West Virginia University, Morgantown, West Virginia; Fall, 1962; free, limited number of copies available for distribution. A unit arrangement for a workable and systematic file using the Subject-Numeric System of Classifying and Filing.